

FACT SHEET FOR NPDES PERMIT WA0001007
GRAYMONT WESTERN US INC.
TACOMA DIVISION

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INTRODUCTION

The Federal Clean Water Act (FCWA, 1972, and later modifications, 1977, 1981, and 1987) established water quality goals for the navigable (surface) waters of the United States. One of the mechanisms for achieving the goals of the Clean Water Act is the National Pollutant Discharge Elimination System of permits (NPDES permits), which is administered by the Environmental Protection Agency (EPA). The EPA has authorized the State of Washington to administer the NPDES permit program. Chapter 90.48 RCW defines the Department of Ecology's authority and obligations in administering the wastewater discharge permit program.

The regulations adopted by the State include procedures for issuing permits (Chapter 173-220 WAC), water quality criteria for surface and ground waters (Chapters 173-201A and 200 WAC), and sediment management standards (Chapter 173-204 WAC). These regulations require that a permit be issued before discharge of wastewater to waters of the state is allowed. The regulations also establish the basis for effluent limitations and other requirements which are to be included in the permit. One of the requirements (WAC 173-220-060) for issuing a permit under the NPDES permit program is the preparation of a draft permit and an accompanying fact sheet. Public notice of the availability of the draft permit is required at least thirty days before the permit is issued (WAC 173-220-050). The fact sheet and draft permit are available for review (see Appendix A--Public Involvement of the fact sheet for more detail on the Public Notice procedures).

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in this review have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Comments and the resultant changes to the permit will be summarized in Appendix D--Response to Comments.

GENERAL INFORMATION	
Applicant	Graymont Western US, Inc.
Facility Name and Address	Tacoma Division, 1220 Alexander Avenue, Tacoma, WA 98421
Type of Facility	Production of calcium oxide (quicklime), calcium hydroxide (slacked lime and precipitated calcium carbonate).
SIC Code	3274 (lime) and 2816 (calcium carbonate)
Discharge Location	Waterbody name: Blair Waterway Latitude: 47° 16' 16" N Longitude: 122° 23' 48" W
Water Body ID Number	WA-10020

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

History

Graymont Western US, Inc. is located in Tacoma, Washington, in the Commencement Bay area. Continental Lime changed its name to Graymont Western US, Inc. on July 25, 2000. The facility manufactures mainly quicklime. However, hydrated lime and precipitated calcium carbonate are also produced. The facility discharges process wastewater and stormwater to the Blair Waterway. The previous permit for this facility was issued on May 11, 1999, was modified on January 13, 2000 and expires on June 30, 2004. A timely permit application for renewal was submitted by Graymont Western US, Inc. in December 2002.

INDUSTRIAL PROCESS

Limestone (calcium carbonate) is heated to drive off the carbon dioxide to produce calcium oxide or quicklime. On a limited basis hydrated lime (calcium hydroxide) is produced by addition of water to quicklime. Water used in scrubbers for air pollution control is normally sent to a holding tank and then shipped off site. However, occasionally, water left in the tank may overflow to the pond system. The carbon dioxide evolved during the production of quicklime is captured and passed through hydrated lime to form a precipitated calcium carbonate. Wastewater (both process related and storm water) generated in the facility is treated with sulfuric acid to control the pH, prior to discharge to Blair Waterway.

DISCHARGE OUTFALL

All process wastewater and storm water is discharged to Blair Waterway via outfall 001.

PERMIT STATUS

The previous permit for this facility was issued on May 11, 1999. The previous permit placed effluent limitations on pH (6 to 9) and suspended solids (25 mg/L and 50 mg/L monthly average and daily maximum respectively). The settled solids in the settling pond were required to be removed on a regular basis.

An application for permit renewal was submitted to the Department in December 2002. The permit application was accepted by the Department in January 31, 2003. A public notice of application and intent of the Department to renew the permit was published in *Tacoma News Tribune* on July 13, 2003, and July 20, 2003.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on October 15, 2002.

WASTEWATER CHARACTERIZATION

The proposed wastewater discharge is characterized for the following regulated parameters:

Table 1: Wastewater Characterization

Parameter	Concentration
pH minimum, S.U.	6.4
pH maximum S.U.	8.6
Total Suspended Solids, mg/L. Max.	25.3
Total Suspended Solids, mg/L, Avg.	8.5

PROPOSED PERMIT LIMITATIONS

Federal and State regulations require that effluent limitations set forth in a NPDES permit must be either technology- or water quality-based. Technology-based limitations are based upon the treatment methods available to treat specific pollutants. Technology-based limitations are set by regulation or developed on a case-by-case basis (40 CFR 125.3, and Chapter 173-220 WAC). Water quality-based limitations are based upon compliance with the Surface Water Quality Standards (Chapter 173-201A WAC), Ground Water Standards (Chapter 173-200 WAC), Sediment Quality Standards (Chapter 173-204 WAC) or the National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992). The more stringent of these two limits must be chosen for each of the parameters of concern. Each of these types of limits is described in more detail below.

The limits in this permit are based in part on information received in the application. The effluent constituents in the application were evaluated on a technology- and water quality-basis. The limits necessary to meet the rules and regulations of the State of Washington were determined and included in this permit. Ecology does not develop effluent limits for all pollutants that may be reported on the application as present in the effluent. Some pollutants are not treatable at the concentrations reported, are not controllable at the source, are not listed in regulation, and do not have a reasonable potential to cause a water quality violation. Effluent limits are not always developed for pollutants that may be in the discharge but not reported as present in the application. In those circumstances the permit does not authorize discharge of the non-reported pollutants. Effluent discharge conditions may change from the conditions reported in the permit application. If significant changes occur in any constituent, as described in 40 CFR 122.42(a), the Permittee is required to notify the Department of Ecology. The Permittee may be in violation of the permit until the permit is modified to reflect additional discharge of pollutants.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

The Revised Code of Washington (RCW) 90.48.010, 90.52.040 and 90.54.020 requires the use of all known, available and reasonable methods of prevention, control and treatment (AKART) before any wastes and other materials and substances enter state waters.

The facility operates under SIC codes 3274 (for manufacture of lime) and 2816 (for producing precipitated calcium carbonate). The operations at Graymont Western US, Inc. fall under the provisions of Code of Federal Regulations 40 CFR Part 415, "Inorganic Chemicals Manufacturing Point Source Category," Subpart E (40 CFR 415.50-415.56) Calcium Oxide Production, Subpart AD (40 CFR Part 415.300-415.302) Calcium Carbonate Production, and Subpart AE (40 CFR 415.310-415.316), Calcium Hydroxide Production.

A. Effluent limitation Based on Subpart E (40 CFR 415.50-415.56) Calcium Oxide Production

1. Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

There shall be no discharge of process wastewater pollutants into navigable waters. However, discharge of process wastewater equivalent to the volume of precipitation in excess of a 10-year, 24-hour storm event is allowed provided that a process wastewater impoundment is designed, constructed and operated to contain the precipitation from a 10-year, 24-hour storm event. The monthly average discharge of process wastewater shall be equal to the difference between the mean precipitation for that month and the mean evaporation for that month. Any process wastewater discharged from the site must comply with the following:

<u>Pollutant</u>	<u>Daily maximum</u>	<u>Monthly average</u>
TSS	50 mg/L	25 mg/L
pH	6 to 9	6 to 9

2. Effluent limitations representing the degree of effluent reduction attainable by the application of the best available technology economically achievable (BAT):

There shall be no discharge of process wastewater pollutants into navigable waters. However, discharge of process wastewater equivalent to the volume of precipitation in excess of a 25-year, 24-hour storm event is allowed provided that a process wastewater impoundment is designed, constructed and operated to contain the precipitation from a 25-year, 24-hour storm event.

B. Effluent Limitation Based on Subpart AD (40 CFR Part 415.300-415.302) Calcium Carbonate Production

Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT) for the production of calcium carbonate by the “milk of lime process” (reaction of slaked lime and carbon dioxide):

<u>Pollutant</u>	<u>Daily maximum</u>	<u>Monthly average</u>
TSS (lb/1000 lb product)	0.56	0.28
pH	6 to 9	6 to 9

For the upgraded precipitated calcium carbonate (PCC) plant capacity of 65,000 tons per year (or 178 tons per day, or 365,000 pounds per day) the TSS limitation would be a daily maximum of 204 pounds and a monthly average of 102 pounds.

At the current plant capacity of 200,000 tons of PCC a year the resulting wastewater discharge (as indicated in the permit application) is 20,000 GPD. This is the wastewater discharge from the PCC process to the settling ponds.

Limitation Based on Subpart AE (40 CFR Part 415.310-415.312) Calcium Hydroxide Production

Effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT):

There shall be no discharge of process wastewater pollutants into navigable waters.

Graymont Western US, Inc. has consistently met the previous permit TSS limit of 50 mg/L (daily maximum) and 25 mg/L (monthly average). All discharge monitoring data indicates compliance with the TSS limit. It is the Department's best professional judgment that these limitations for TSS be retained to fulfill the requirements of AKART as well as the federal effluent guidelines.

Graymont Western US, Inc. has already established a settling pond system capable of holding a 25-year, 24-hour storm (as per report submitted by Bison Engineering and Research, July 1987). There is no discharge from the calcium oxide and calcium hydroxide production. The following is a list of discharges from the site that enters the settling pond (flow quantities are estimates only):

PCC process:	20,000 GPD
Stone wash:	28,000 GPD
Truck wash:	10,215 GPD
Dust Control:	1000 GPD
Stormwater:	1.3 x 10 ⁶ GPD (MAX)

Thus, approximately 48,000 GPD (or 52,500 GPD with increased production) will be discharged from the site in addition to any storm water. Since the settling pond system is designed to hold a 25-year, 24-hour storm event, any discharge from the site will be a combination of process and storm water that is in excess of this volume. Since, stormwater run-off from the site can be potentially high in pH, all discharge from the site (whether process or stormwater) is currently being treated to neutralize the pH before discharging to Blair Waterway.

The facility stores and recycles compressor cooling water by discharging it first to a pond near the pre-heater and reusing it for cooling.

Approximately 50 trucks are washed at the facility each week. Only the exterior of the truck is washed. No detergents are used. Washing is accomplished via several overhead water jets located near the hydrated lime building. In addition, before leaving the site the wheels of the trucks are also washed. The washing of the truck in essence removes any product from the body of the truck. The wash water co-mingles with other process wastewater and storm water before being discharged to the settling pond and Blair Waterway with prior in-line pH neutralization.

SURFACE WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's surface waters, WAC 173-201A-060 states that waste discharge permits shall be conditioned such that the discharge will meet established Surface Water Quality Standards. The Washington State Surface Water Quality Standards (Chapter 173-201A WAC) is a state regulation designed to protect the beneficial uses of the surface waters of the state. Surface water quality-based effluent limitations may be based on an individual waste load allocation (WLA) or on a WLA developed during a basin wide total maximum daily loading study (TMDL).

NUMERICAL CRITERIA FOR THE PROTECTION OF AQUATIC LIFE

"Numerical" water quality criteria are numerical values set forth in the State of Washington's Water Quality Standards for Surface Waters (Chapter 173-201A WAC). They specify the levels of pollutants allowed in a receiving water while remaining protective of aquatic life. Numerical criteria set forth in the Water Quality Standards are used along with chemical and physical data for the wastewater and receiving water to derive the effluent limits in the discharge permit. When surface water quality-based limits are more stringent or potentially more stringent than technology-based limitations, they must be used in a permit.

NUMERICAL CRITERIA FOR THE PROTECTION OF HUMAN HEALTH

The U.S. EPA has promulgated 91 numeric water quality criteria for the protection of human health that are applicable to Washington State (EPA 1992). These criteria are designed to protect humans from cancer and other disease and are primarily applicable to fish and shellfish consumption and drinking water from surface waters.

NARRATIVE CRITERIA

In addition to numerical criteria, "narrative" water quality criteria (WAC 173-201A-030) limit toxic, radioactive, or deleterious material concentrations below those which have the potential to adversely affect characteristic water uses, cause acute or chronic toxicity to biota, impair aesthetic values, or adversely affect human health. Narrative criteria protect the specific beneficial uses of all fresh (WAC 173-201A-130) and marine (WAC 173-201A-140) waters in the State of Washington.

ANTIDEGRADATION

The State of Washington's Antidegradation Policy requires that discharges into a receiving water shall not further degrade the existing water quality of the water body. In cases where the natural conditions of a receiving water are of lower quality than the criteria assigned, the natural conditions shall constitute the water quality criteria. Similarly, when the natural conditions of a receiving water are of higher quality than the criteria assigned, the natural conditions shall be protected. More information on the State Antidegradation Policy can be obtained by referring to WAC 173-201A-070.

The Department has reviewed existing records and is unable to determine if ambient water quality is either higher or lower than the designated classification criteria given in Chapter 173-201A WAC; therefore, the Department will use the designated classification criteria for this water body in the proposed permit. The discharges authorized by this proposed permit should not cause a loss of beneficial uses.

CRITICAL CONDITIONS

Surface water quality-based limits are derived for the waterbody's critical condition, which represents the receiving water and waste discharge condition with the highest potential for adverse impact on the aquatic biota, human health, and existing or characteristic water body uses.

MIXING ZONES

The Water Quality Standards allow the Department of Ecology to authorize mixing zones around a point of discharge in establishing surface water quality-based effluent limits. Both "acute" and "chronic" mixing zones may be authorized for pollutants that can have a toxic effect on the aquatic environment near the point of discharge. The concentration of pollutants at the boundary of these mixing zones may not exceed the numerical criteria for that type of zone. Mixing zones can only be authorized for

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discharges that are receiving all known, available, and reasonable methods of prevention, control and treatment (AKART) and in accordance with other mixing zone requirements of WAC 173-201A-100.

The National Toxics Rule (EPA, 1992) allows the chronic mixing zone to be used to meet human health criteria.

DESCRIPTION OF THE RECEIVING WATER

The facility discharges to Blair Waterway which is designated as a Class *B* marine receiving water in the vicinity of the outfall. Other adjacent point source outfalls include storm water discharge from Domtar Gypsum (upstream) and True Grit (downstream) facilities. Lincoln Avenue East and Lincoln Avenue West both discharge into Blair Waterway upstream of Domtar Gypsum. Wapato Creek discharges into the inner Blair Waterway. Characteristic uses of Blair Waterway include the following:

water supply (industrial, agricultural); stock watering; fish migration; fish and shellfish rearing, spawning and harvesting; wildlife habitat; secondary contact recreation; sport fishing; boating and aesthetic enjoyment; commerce and navigation. Water quality of this class shall meet or exceed the requirements for most uses.

SURFACE WATER QUALITY CRITERIA

Applicable criteria are defined in Chapter 173-201A WAC for aquatic biota. In addition, U.S. EPA has promulgated human health criteria for toxic pollutants (EPA 1992). Criteria for this discharge are summarized below:

Fecal Coliforms	200 organisms/100 mL maximum geometric mean
Dissolved Oxygen	5 mg/L minimum
Temperature	21 degrees Celsius maximum or incremental increases above background
pH	6.5 to 8.5 standard units
Turbidity	less than 10 NTU above background
Toxics	No toxics in toxic amounts (see Appendix C for numeric criteria for toxics of concern for this discharge)

CONSIDERATION OF SURFACE WATER QUALITY-BASED LIMITS FOR NUMERIC CRITERIA

Pollutants in an effluent may affect the aquatic environment near the point of discharge (near field) or at a considerable distance from the point of discharge (far field). Toxic pollutants, for example, are near-field pollutants--their adverse effects diminish rapidly with mixing in the receiving water. Conversely, a pollutant such as BOD is a far-field pollutant whose adverse effect occurs away from the discharge even after dilution has occurred. Thus, the method of calculating surface water quality-based effluent limits varies with the point at which the pollutant has its maximum effect.

The derivation of surface water quality-based limits also takes into account the variability of the pollutant concentrations in both the effluent and the receiving water.

pH--Because of the high buffering capacity of marine water, compliance with the technology-based limits of 6 to 9 will assure compliance with the Water Quality Standards for Surface Water.

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WHOLE EFFLUENT TOXICITY

The WET tests during effluent characterization indicate that no reasonable potential exists to cause receiving water acute toxicity, and the Permittee will not be given an acute WET limit and will only be required to retest the effluent prior to application for permit renewal in order to demonstrate that acute toxicity has not increased in the effluent.

If the Permittee makes process or material changes which, in the Department's opinion, results in an increased potential for effluent toxicity, then the Department may require additional effluent characterization in a regulatory order, by permit modification, or in the permit renewal. Toxicity is assumed to have increased if WET testing conducted for submission with a permit application fails to meet the performance standards in WAC 173-205-020, "whole effluent toxicity performance standard". The Permittee may demonstrate to the Department that changes have not increased effluent toxicity by performing additional WET testing after the time the process or material changes have been made.

HUMAN HEALTH

Washington's water quality standards now include 91 numeric health-based criteria that must be considered in NPDES permits. These criteria were promulgated for the state by the U.S. EPA in its National Toxics Rule (Federal Register, Volume 57, No. 246, Tuesday, December 22, 1992).

The Department has determined that the applicant's discharge is unlikely to contain chemicals regulated for human health,

SEDIMENT QUALITY

The Department has promulgated aquatic sediment standards (Chapter 173-204 WAC) to protect aquatic biota and human health. These standards state that the Department may require Permittees to evaluate the potential for the discharge to cause a violation of applicable standards (WAC 173-204-400).

The Department has determined through a review of the discharger characteristics and effluent characteristics that this discharge has no reasonable potential to violate the Sediment Management Standards. See Appendix C, Screening level Evaluation for Potential Sediment Impacts.

GROUND WATER QUALITY LIMITATIONS

The Department has promulgated Ground Water Quality Standards (Chapter 173-200 WAC) to protect beneficial uses of ground water. Permits issued by the Department shall be conditioned in such a manner so as not to allow violations of those standards (WAC 173-200-100).

This Permittee has no discharge to ground and therefore no limitations are required based on potential effects to ground water.

COMPARISON OF EFFLUENT LIMITS WITH THE EXISTING PERMIT ISSUED MAY 11, 1999 AND MODIFIED ON JANUARY 13, 2000.

Existing Limits	Proposed Limits
Total Suspended Solids, 25 mg/L, Average	Total Suspended Solids, 25 mg/L, Average
Total Suspended Solids, 50 mg/L, Maximum	Total Suspended Solids, 50 mg/L, Maximum
pH, 6 S.U., maximum	pH, 6 S.U., maximum
pH, 9 S.U., minimum	pH, 9 S.U., minimum

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are required (WAC 173-220-210 and 40 CFR 122.41) to verify that the treatment process is functioning correctly and the effluent limitations are being achieved.

The monitoring schedule is detailed in the proposed permit under Condition S.2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

Appendix C will show that the two-year ratio of effluent concentrations to the average limit is 0.33. According to Ecology policy, this entitles Graymont Western to a reduction in sampling frequency from monthly to quarterly.

LAB ACCREDITATION

With the exception of certain parameters the permit requires all monitoring data to be prepared by a laboratory registered or accredited under the provisions of Chapter 173-50 WAC, *Accreditation of Environmental Laboratories*.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-220-210).

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems.

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These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge via the process wastewater outfall or through a stormwater outfall for clean water, require the wastewater to be placed through the facilities wastewater treatment process or require the water to be reused.

SPILL PLAN

The Department has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department has the authority to require the Permittee to develop best management plans to prevent this accidental release under section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The proposed permit requires the Permittee to develop and implement a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs.

The Permittee has developed a plan for preventing the accidental release of pollutants to state waters and for minimizing damages if such a spill occurs. The proposed permit requires the Permittee to update this plan and submit it to the Department.

SOLID WASTE PLAN

The Department has determined that the Permittee has a potential to cause pollution of the waters of the state from leachate of solid waste.

This proposed permit requires, under the authority of RCW 90.48.080, that the Permittee update the solid waste plan designed to prevent solid waste from causing pollution of the waters of the state. The plan must be submitted to the local permitting agency for approval, if necessary, and to the Department.

TREATMENT SYSTEM OPERATING PLAN

In accordance with state and federal regulations, the Permittee is required to take all reasonable steps to properly operate and maintain the treatment system (40 CFR 122.41(e)) and WAC 173-220-150 (1)(g). An operation and maintenance manual will be submitted as required by state regulation for the construction of wastewater treatment facilities (WAC 173-240-150). It has been determined that the implementation of the procedures in the Treatment System Operating Plan is a reasonable measure to ensure compliance with the terms and limitations in the permit.

GENERAL CONDITIONS

General Conditions are based directly on state and federal law and regulations and have been standardized for all individual industrial NPDES permits issued by the Department.

PERMIT ISSUANCE PROCEDURES

PERMIT MODIFICATIONS

The Department may modify this permit to impose numerical limitations, if necessary to meet Water Quality Standards for Surface Waters, Sediment Quality Standards, or Water Quality Standards for

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Ground Waters, based on new information obtained from sources such as inspections, effluent monitoring, outfall studies, and effluent mixing studies.

The Department may also modify this permit as a result of new or amended state or federal regulations.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, protect human health, aquatic life, and the beneficial uses of waters of the State of Washington. The Department proposes that this proposed permit be issued for five years.

REFERENCES FOR TEXT AND APPENDICES

Environmental Protection Agency (EPA)

1992. National Toxics Rule. Federal Register, V. 57, No. 246, Tuesday, December 22, 1992.

1991. Technical Support Document for Water Quality-based Toxics Control. EPA/505/2-90-001.

1988. Technical Guidance on Supplementary Stream Design Conditions for Steady State Modeling. USEPA Office of Water, Washington, D.C.

1985. Water Quality Assessment: A Screening Procedure for Toxic and Conventional Pollutants in Surface and Ground Water. EPA/600/6-85/002a.

1983. Water Quality Standards Handbook. USEPA Office of Water, Washington, D.C.

Tsivoglou, E.C., and J.R. Wallace.

1972. Characterization of Stream Reaeration Capacity. EPA-R3-72-012. (Cited in EPA 1985 op.cit.)

Washington State Department of Ecology.

1994. Permit Writer's Manual. Publication Number 92-109

Washington State Department of Ecology.

Laws and Regulations(<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information
(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

Wright, R.M., and A.J. McDonnell.

1979. In-stream Deoxygenation Rate Prediction. Journal Environmental Engineering Division, ASCE. 105(E2). (Cited in EPA 1985 op.cit.)

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page 1 of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on July 13, 2003, and July 20, 2003, in the *Tacoma News Tribune* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

The Department will publish a Public Notice of Draft (PNOD) on April 15, 2004 in the *Tacoma News Tribune* to inform the public that a draft permit and fact sheet are available for review. Interested persons are invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents are available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments should be mailed to:

Water Quality Permit Coordinator
Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia, WA 98504-7775

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30) day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. The Department will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-220-090). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing (WAC 173-220-100).

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

The Department will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. The Department's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from the Department by telephone, (360) 407-6280, or by writing to the address listed above.

This permit and fact sheet were written by Gary Anderson, P.E.

APPENDIX B--GLOSSARY

Acute Toxicity--The lethal effect of a compound on an organism that occurs in a short period of time, usually 48 to 96 hours.

AKART-- An acronym for "all known, available, and reasonable methods of treatment".

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation --The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of a treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Chronic Toxicity--The effect of a compound on an organism over a relatively long time, often 1/10 of an organism's lifespan or more. Chronic toxicity can measure survival, reproduction or growth rates, or other parameters to measure the toxic effects of a compound or combination of compounds.

Clean Water Act (CWA)--The Federal Water Pollution Control Act enacted by Public Law 92-500, as amended by Public Laws 95-217, 95-576, 96-483, 97-117; USC 1251 et seq.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring --Uninterrupted, unless otherwise noted in the permit.

Critical Condition--The time during which the combination of receiving water and waste discharge conditions have the highest potential for causing toxicity in the receiving water environment. This situation usually occurs when the flow within a water body is low, thus, its ability to dilute effluent is reduced.

Dilution Factor--A measure of the amount of mixing of effluent and receiving water that occurs at the boundary of the mixing zone. Expressed as the inverse of the percent effluent fraction e.g., a dilution factor of 10 means the effluent comprises 10% by volume and the receiving water 90%.

Engineering Report--A document which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Major Facility--A facility discharging to surface water with an EPA rating score of > 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minor Facility--A facility discharging to surface water with an EPA rating score of < 80 points based on such factors as flow volume, toxic pollutant potential, and public health impact.

Mixing Zone--An area that surrounds an effluent discharge within which water quality criteria may be exceeded. The area of the authorized mixing zone is specified in a facility's permit and follows procedures outlined in state regulations (Chapter 173-201A WAC).

National Pollutant Discharge Elimination System (NPDES)--The NPDES (Section 402 of the Clean Water Act) is the Federal wastewater permitting system for discharges to navigable waters of the United States. Many states, including the State of Washington, have been delegated the authority to issue these permits. NPDES permits issued by Washington State permit writers are joint NPDES/State permits issued under both State and Federal laws.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Responsible Corporate Officer-- A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or the manager of one or more manufacturing, production, or operating facilities employing more than 250 persons or have gross annual sales or expenditures exceeding \$25 million (in second quarter 1980 dollars), if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures (40 CFR 122.22).

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Upset--An exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, lack of preventative maintenance, or careless or improper operation.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

Several of the Excel® spreadsheet tools used to evaluate a discharger's ability to meet Washington State water quality standards can be found on the Department's homepage at <http://www.ecy.wa.gov>.

APPENDIX C
GRAYMONT WESTERN US

Two Year Average

Date	TSS, mg/L
10/1/2001	6.8
11/1/2001	6.8
12/1/2001	3.8
1/1/2002	7.2
2/1/2002	8.8
3/1/2002	11
4/1/2002	15
5/1/2002	12.4
6/1/2002	3.6
7/1/2002	5
8/1/2002	8.6
9/1/2002	3.6
10/1/2002	19
11/1/2002	17.6
12/1/2002	2.2
1/1/2003	2.8
2/1/2003	2.2
3/1/2003	10.8
4/1/2003	21
5/1/2003	10
6/1/2003	7
7/1/2003	4.8
8/1/2003	3.4
9/1/2003	6.4
10/1/2003	8
Average	8.312

$$8.3/25=0.33$$

APPENDIX C
GRAYMONT WESTERN US, INC.
NPDES PERMIT NO. 0001007
SUMMARY OF WET TESTING FOR ACUTE CONCENTRATION

Test Date	Species	Mean Survival at Concentration Shown					
		0	6.25	12	21	50	100
8/9/99	Pimphales	100	97	100	97	100	97
10/2/99	Daphnia	100	100	100	90	10	0
2/3/00	Pimphales	100	90	100	80	100	90
5/5/00	Daphnia	95	100	100	100	95	95
7/25/00	Pimphales	100	97	100	100	97	100
11/13/00	Daphnia	100	100	95	95	100	80
2/15/01	Pimphales	100	100	100	100	100	100
4/28/01	Daphnia	100	100	100	100	95	100
7/24/01	Pimphales	100	100	100	100	100	90
11/6/01	Daphnia	100	100	100	100	100	100
2/5/02	Pimphales	100	93	97	100	100	97
12/12/02	Daphnia	93	93	97	97	100	100

From these tests it is obvious that there is no real risk of an unknown toxic substance being present in the effluent.

Screening-Level Evaluation
of the Potential for Sediment Impacts

Appendix C
Part A. Narrative Evaluation

Applicant: Graymont Western U.S.
Waste Discharge Permit No.: WA 0001007
Location: Tacoma, Washington

1. A discharge is generally considered not to have a risk for causing adverse sediment impacts if the facility has all of the following three characteristics:
 - ☒ a freshwater discharge to marine water, and
 - ☒ has secondary wastewater treatment or equivalent and
 - ☒ discharges to an area with an average tidal velocity of 1 cm/sec or greater.If any one of these three factors is not applicable proceed to 2.
2. A discharge is generally considered to have a risk for causing adverse sediment impacts if the facility meets any of the following criteria (check any that apply and attach a brief explanation):
 - ☐ Uses, stores, produces as a product or waste, or transfers any hazardous substance listed in 40 CFR 302.4, with a statutory code of 1 or 2, [referring to Sections 311(b)(4) or 307(a) of the Clean Water Act] unless:

The facility is designed and managed so that these substances are kept fully physically separated at all times, including spills or any other accidental release, from any part of the wastewater collection, treatment, or discharge system or stormwater system; or

The amount of any hazardous substance at the facility is never more than the statutory reportable quantity listed in 40 CFR 302.4.
 - ☐ Discharges any chemical pollutant listed in Appendix D of 40 CFR Part 122, Table II, in its effluent (*attach a list of any such pollutants known to be discharged*).
 - ☐ Has a reasonable potential to violate water quality standards for any pollutant in Appendix D of 40 CFR Part 122, Table III (*attach a list of any such pollutant known to be discharged*).
 - ☐ Discharges other potentially deleterious substances, such as any of the following (*check any that apply*):
 - ☐ Solid inorganic materials (e.g., paint chips, slag)
 - ☐ Radionuclides
 - ☐ Other (*describe*)
 - ☐ Belongs to any industry category identified in 40 CFR Part 122, Appendix A.
 - ☐ Is a municipal facility that receives a discharge from any industry category identified in 40 CFR Part 403, Appendix C.
 - ☐ Any facility with whole effluent toxicity detected during the last five years based on:
 - Less than 80 percent survival in 100 percent effluent; or
 - The no observed effects concentration for chronic toxicity being less than or equal to the acute critical effluent concentration; and
 - Not attributable to a known chemical
 - ☐ Any facility with suspected sediment toxicity because of apparent damage to aquatic biota in the immediate vicinity of the discharge.
 - ☐ Any other discharge that Ecology determines has the potential to include toxic substances that may accumulate in the sediment.
3. The following types of discharges (**check if applicable**) are generally not believed to have a potential for causing adverse sediment impacts unless one of the above factors, in item 2, applies:
 - ☐ Once-through noncontact cooling water without biocides

FACT SHEET FOR NPDES PERMIT NO. WA0001007
Graymont Western US Inc., Tacoma Division

- ☐ Municipal plants discharging less than one-half million gallons per day of effluent that are regulated only for conventional pollutants
 - ☐ Drinking water treatment plants
 - ☐ Sand and gravel mining operations
 - ☐ Sump pump discharges of ground water or rainwater
 - ☐ Construction dewatering
 - ☐ Fish hatcheries and other aquaculture
 - ☐ Boiler blowdown
 - ☐ Any other discharger that Ecology determines does not have the potential to discharge toxic pollutants
3. Based on the narrative evaluation above, is there a potential for sediment impacts from this discharge?
- ☐ Yes. If yes, answer the following question.
 - ☐ No
4. Is there a preliminary indication that the discharge would be eligible for a SIZ?
- ☐ Yes
 - ☐ No. If no, describe the reason(s) the discharge may be ineligible.

Permit Manager:

Kathy Anderson
(print name)
[Signature]
(Signature)

Date:

4/23/04

APPENDIX D--RESPONSE TO COMMENTS

Comment:

Graymont requests that the department of Ecology provide an explanation on why the acute and chronic mixing zone dilution factors that are included in the existing NPDES permit are not included in the draft permit. These factors have been previously approved by the Department. Graymont requests that they be duplicated in the renewed permit.

Response:

Dilution zones are granted when “all known, available and reasonable treatment” is inadequate to protect water quality. A review of the performance of Graymont Western’s performance for the period July 1, 2000 to January 1, 2004 shows no violation of the pH limits, demonstrating that Graymont Western is perfectly capable of treating their waste stream to meet applicable limits without dilution. Mixing zones are not granted for total suspended solids in any situation. Were this a new permit, there would be no reason to grant a mixing zone.

The applicable regulation (WAC 173-201A) requires that the size of mixing zones be minimized. Given the outstanding compliance record of Graymont Western, this minimization results in no mixing zone.

The granting of a mixing zone is an expedient, not a perpetual entitlement.